

INDEX TO VOLUME. XII.

A.

Abbott, C. C. Antiquity of man, 103.
Adulteration of condiments, 185.
Africa, affairs in Central, 199; Mohammedanism in, 395, 398.
Agassiz Association, 18; Iowa Assembly of, 179; Seaside Assembly, 160.
Agassiz's Three Cruises of the "Blake," 95.
Agricultural experiments in Connecticut, 26.
Alaska explorations, 59; Muir glacier in, 192.
Alcoholism, 259.
Altruism considered economically, 96.
Aluminum process, the Heroult, 234.
America, culture of North-West, 194; name of, 42.
American Association, 96; meeting, 97; officers, 95; Institute fair, 249; race, Mongolian affinities of, 181, 257, 259.
Americanista, Congress of, 58, 74, 180.
Anerometer constants, 251.
Antarctic regions exploration, 36.
Antiseptic ammunition, 111.
Anis transplanting the scale-bug, 204.
Ape, mental powers of, 245.
Archaeological remains in Costa Rica, 156.
Archaeology in New York, 278.
Arkansas, mining districts of, 100.
Armor-plates and projectiles, 33.
Association by contrast, 174.
Atomic weights, 300.
Aurora, the, 32.
Australasian Association of Science, 236.

B.

Babylonian races, 307.
Bacteriology, 70, 310.
Baldness, 166, 334.
Ball's Experimental Mechanics, 336.
Ball's History of Mathematics, 272.
Balloon ascension at Paris, 32.
Bantam, eruption of, 136, 143.
Bantu, migrations of the, 246.
Bartholomew's Elementary School Atlas, 81.
Bathing, precautions in, 68.
Bats, are they diurnal, 96.
Beasts of burden, human, 265.
Bell's Facts and Opinions relating to the Deaf, from America, 154.
Bellamy's Looking Backward, 31.
Berlitz schools of languages, 303.
Bill-daily, 240.
Bill-fish, habits of, 72.
Billion, the, 238, 240.
Biology, Virginia school of, 125.
Birds, our native, 49, 71, 88, 96; soaring of, 267.
Blair's Chemical Analysis of iron, 142.
Blindness at night, 23.
Blood, diagnosis of human, 162.
Boats, submarine, 308, 377.
Bosanquet's Logic, 114.
Botone's Electrical Instrument Making for Amateurs, 106.
Brain sociability, 237.
Brandt's First Book in German, 214.
Bray's Essays on God and Man, 236.
Brazil exploration, 37.
British Association money-grants, 145.
Brooklyn Institute, 159.
Brooks, W. F., 70.
Buffalo on the Texas plains, 340.
Burke's History of Greek Philosophy, 273.
Butterflies of New England, 179.

C.

Cæsar's Gallic War, 248.
Calderwood's Hand-Book of Moral Philosophy, 213.
California, development of southern, 179; survey, 48.
Cameron's Soaps and Candles, 255.
Canal across Italy, 116; from the Obi to the Yenisei, 200.
Canals, Nicaragua and Panama, 222.
Cancer, 67.
Cannan's Political Economy, 175.
Carboniferous rocks, 309.
Carrington's Patriotic Reader, 256.
Chemical action between solids, 184, 216; in a magnetic field, 56.
Chemistry, progress of, 90.
Chemists, agricultural, 97.
Chest-development, 304.
Children, dependent, 186.
Chisholm's High School Geography, 69.
Cigarette-smoking, 186, 259.
Cincinnati Exhibition, 1, 49; Coast Survey exhibit at, 50.
Citizenship, intelligent, 26; Society for promoting Good, 144, 167.
Clausius, R., 132.
Cluny's Inebriety, 213.
Coal-measures of Kansas, 119.
Colleges, attendance upon, 334.
Color audition, 140; sensitivity, evolution of, 245.
Colored wool, sorting, when blindfolded, 192.
Colson's Macmillan's Greek Reader, 219.
Congress, scientific, in Paris, 25.
Consumption among Indians, 148; in New Hampshire, 259.
Cook, G. H. Geological congress, 92.
Copyright in works of art, 49.

Corrasion, laws of, 119, 259.
Cotton-plant fibre, a new, 185.
Cranial measurements, 185.
Cremation in France, 31; statistics, 265.
Croffut, W. A., 69.

D.

Davenport's Death-Blow to Spiritualism, 274.
De la Noë's *Les Formes du Terrain*, 188.
Deception, psychology of, 244.
Dewey's How to teach Manners in the School-room, 186.
Dewey's Leibnitz's New Essays concerning the Human Understanding, 188.
Dialect, negro, 29.
Diphtheria carried by turkeys, 186; spread by cats, 266.
Diptera, synopsis of American, 156.
Disease and panic, 255.
Disinfectant, corrosive sublimate as, 185; phosphorus pentoxide as, 199.
Disinfectants that neutralize each other, 130.
Disinfection at New Orleans, 18; methods, 14; of letters, 259.
Dog feast, 56.
Dream excitation, 216.
Dreams of the deaf, 153.
Drift, limit of, 132.
Drowning, death by, 151.
Dunn's Indiana, 177.
Dysentery, microbe of, 111.

E.

Ear affections, tuning-fork for, 68.
Earle's Handbook to the Land-Charters, 212.
Eclipse, solar, 289.
Education in the magazines, 241.
Egypt, discovery in, 140.
Electrical absorption in dielectrics, 187; action on steam, 269; alternating current, danger of, 111; death from, 72; motor, 141; arc, 7; battery, light-weight primary, 112; primary, 21; storage, 208, 209, 309; boat, 6; commission on traction in Italy, 269; condensers, 269; conductors for alternating currents, 201; conduit system of railways, 329; conductors, 309; currents, 29; new method of producing, 291; deposition of copper, 295; diffusion, rate of, 29; distribution by storage-batteries, 164; dynamo, Eickemeyer, 270; dynamometer, 112; Edison light for houses, 294; system, 270; employment of mice in condensers, 174; energy absorbed by different lights, 153; incandescent lamp phenomena, 294; insulator, 149; investments, 260; lamp experiments, 21; lamps for mines, 167; launch, an, 247; light convention, 128; in the future, 153; wires, 29; vs. gas in France, 201; lighting, 270; in America, 186; in mines, 30; station an ammeter, 294; locomotive at Birmingham, 270; motor, 153; microphone, 7; motor, Sprague, 210; resistor, 30; potential variation, 60; power-distribution, 294; propulsion, 291; radiophone, 7.
Railway, the Hause, 201; rapid transit, 15; resistance of copper, 21; of mercury, 149; road, 206; Somers, Boston, 294; standards of resistance, 56; street-rails, 246; sun-lamp, 201; surface road in New York, 270; tempering of steel, 210; testing bureaus, 25, 67; tests of secondary batteries, 223; theory of light, 163; traction, 7; tramways in salt mines, 142; transformers, 56; treatment of zinc, 66; Tudor accumulator, 178; underground cables, 141; roads in London, 58.
Electricity, advances in, in 1896, 328.
Elementary Classics, 214.
Energy, radiant, 119.
English language, claims of, 291.
Eskimo measuring, 306.
Etymology, Misnagaq, 122.
Evans's Hand-Book of Historical and Geographical Physiology, 294.
Evolution, a notable, 120, 180.
Execution by electricity, 261.
Exercise among Celestials, 172.

F.

Feather ornament, a Mexican, 246.
Fellow's Lotto exposed, 31.
Filter, a simple, 68.
Fish of the Allegheny region, 82; Commission, United States, 217; work of, 219.
Fishers' Essentials of Geography, 164.
Fiske's Critical Period of American History, 273.
Flint implements at Soutthill, 212.
Floods in the Mississippi, 187.
Folk-lore, Ojibwa, 335; Teton, 333.
Food-preservatives, 150.
Forestry Association, 273; congress, 250.
Forests and rainfall, 211, 212; care of, 233; in South Africa, 106.
Fowler's Tales of the Birds, 255.
Frederick III., Case of Emperor, 316.
Frost, date of first killing, 190.
Fruit-plants in California, 209.
Fuel, burning pulverized, 321.

G.

Galloupe's Index to Engineering Periodicals, 107.
Game, a queer, among the Navajo, 268.
Garbage cremation, 159, 211, 295; disposal in Buffalo, 139.
Gardiner's Town and Country School Buildings, 249.
Geiser, loss of, 109.
Geodetic signals, 296.
Geographic magazine, 205.
Geographical Congress, 70; nomenclature of Canada, 253.

Geography, lesson in commercial, 157.
Geological Congress, 9, 22, 195; Survey library, 190; publications, 61; report, 148; of Kentucky map, 250.

Gerard's Land beyond the Forest, 201.
Gibbons's Tenure and Toll, 212.
Gibson's Introduction to Latin Syntax, 248.

Gravity, force of, 9.

Greely's American Weather, 274.

Green, Thomas Hill, Works of, 262.

Greene's First Lessons in English, 143.

Greenland, Nansen's expedition across, 144, 271.

Gurney, Edmund, death of, 22.

H.

Hall and Stevens's Text-Book of Euclid's Elements, 257.

Hall, G. Stanley, 34.

Hamilton, J. B., resignation of, 229.

Hanging as a method of execution, 121.

Hardy's Latin Reader, 249.

Hardy's Western China, 214.

Hasheesh, psychic effects of, 175.

Headache, the sightseer's, 260.

Health Association, 253; of United States Army, 214; resorts, depressed areas as, 210.

Heart, human, as an electrical battery, 197.

Heat-centre in man, 147.

Helpprin's Animal Life on our Sea-Shore, 22.

Hemway Expedition, 39.

Hewes's Citizen's Atlas of American Politics, 1730-1888, 185.

Hinman's Eclectic Physical Geography, 142.

History, American, 1, 34; of a doctrine, 74.

Hoagland Laboratory, 189.

Hoffmann's Froebel's Kindergarten Gifts, 189.

Homing instinct, the, 226.

Hudson Bay route, 157.

Hughes's How to keep Order, 189.

Humbuggery, 277.

Huntington's Unconscious Teaching, 189.

Hurricane, Cuban, 189.

Hurricanes, study of, 109.

Huxley's Practical Biology, 8.

Hydrographic Office work, 290.

Hypnotism and crime, 174; and magnet, 182; in Washington, 309; notes on, 220.

I.

Ice movement, 34.

Identification, personal, 37.

Illnesses of eminent men, 151.

Illumination, measurement of, 141.

Illusions of drawing and painting, 268.

Imagination, power of, 151.

India, sanitation in, 106.

Indians, Canadian, 22.

Insects under ground, study of, 198.

Intellect in Great Britain, 200.

Iowa Association of Science, 116.

Iron, protection of, from corrosion, 82; and steel, protection of, by electrolysis, 261.

Irrigation of arid lands, 61, 169, 306.

J.

Jadeite discussion, 168, 192.

Japanese koji, 55.

Johns Hopkins University, 305; annual report, 291; scientific work of, 329.

Jones's Examples in Physics, 225.

Jordan's Vertebrate Animals of the Northern United States, 235.

Juke-Browne's Building of the British Isles, 176.

Jutland, discoveries in, 271.

K.

Kassaï, the, 131.

Kay's Memory, 31, 315.

King devil, 198.

Knee-jerk, 9.

Kongo Free State, 131.

Krakatoa, eruption of, 217.

Kunz's collection, 309.

L.

Labor department, 38.

Laboratory at Wood's Holl, 37.

Lacing, 229.

Lanciani's Ancient Rome, 263.

Langley, S. P. History of a doctrine, 74.

Language, origin of, 145.

Leech and Clutterbuck, B. C. 1867, 263.

Leprosy, contagiousness of, 151.

LeRow's The Young Idea, 394.

Leyle's report, 309.

Lewis, H. C., death of, 37.

Library, Congressional, 305.

Light standards of 210; surfaces feebly sensitive to, 196; velocity of, as affected by electric current, 173; waves, a plea for, 80.

Lightning flashes, 7; photographs of, 11; protection, 17; shock, 171.

Livy, 248.

Lobsters for California, 27.

Log raft, 73.

Lubbock's Senses, Instincts, and Intelligence of Animals, 301.

M.

M'Kendrick's Physiology, 106.

Mackenzie basin, resources of, 310, 314.

Macmillan's Greek Course, 214.

Magnetic declination in California, 155; disturbances in the sun, 179; polarity of earth, 116; survey, Japan, 127.

Mahdi, the captives of, 61.
Malaria, 67.
Mammalian life, paucity of primitive, 135.
Man, antiquity of, 103.
Manners and meals, 2.
Manuscripts, ancient, 179.
Map of New Jersey, 305.
Maps of Geological Survey, 53; paper relief, 144; projection of, 307.
Marine conference, 130.
Marmots in Russia, 23.
Marriage and descent, laws of, 211; statistics, 205.
Mars, aspect of, 9, 25, 29; satellites of, 142.
Mead's Constitution of the United States, 47.
Medals of Franklin Institute, 214; of Royal Society, New South Wales, 23.
Medical congress, 105, 146; legislation in New York, 181.
Medico-legal case, 111.
Memory, 121; Loiselet's, 48; of movements, 21.
Meteor, brilliant, 132.
Meteorite, a false, 48; the Bendigo, 39.
Meteorological apparatus, exhibition of, 250; observations in Bavaria, 190.
Meteorology, bibliography of, 136.
McIvorson, A. A. A pie for light-waves, 80.
Michigan pine planks, 25; State Board of Health, Annual Report of, 247.
Microscope, a new freezing, 307.
Milk, 151; sickness, 96.
Mineral resources of Ontario, 37.
Minerals, rare, 23.
Mining industries of New Zealand, 199.
Money, paper, in Peru, 97.
Montelius' Civilisation of Sweden in Heathen Times, 336.
Morris's The Aryan Race, 164.
Mosquito, poison-apparatus of, 144.
Mound-building, 65.
Mounds, effigy, in northern Illinois, 118; shell, 96.
Mountains and valleys, 330.
Munroe, C. E. Progress of chemistry, 90.
Murray's New English Dictionary, 154.
Muscular sensation, 31.
Museum, Army Medical, 129.
Museums, medical, 134.
Musical boxes, 236.
Myriopoda, army of, 94.
Mythology, Iroquois, 27.
Myths, Oriental, 24.
N.
Newcomb, Simon, 215.
New York Academy of Science, 167.
Nicaragua Canal, 155, 322.
Nichol's Francis Bacon, 159.
Nickel silicates, 71.
Night, warm air at, 139.
Nitrogen absorbed by plants, 33.
Nurses for country towns, 123.
O.
Observatory, Naval, 6.
Ocean's bed, the, 29.
Ohio Geological Survey, Report of, 175.
Oil-exploding rockets, 64.
Oleomargarine, 59.
Organic forms, variation in, 123.
Oriental Society meeting, 315.
Ornaments, evolution of, 162.
Ornithological Association of Colorado, 315.
P.
Packard's Entomology for Beginners, 95; First Lessons in Zoölogy, 8.
Palmer, Courtland, death of, 48.
Paris Exhibition building, 37; statistics, 23.
Parker's How to study Geography, 114.
Parker's The Spirit of Beauty, 114.
Payson's Law of Equivalents, 168.
Perez's L'Art et la Poésie chez l'Enfant, 57.
Petroleum, poisonous effect of, 172.
Philippine Islands, 84.
Philosophical society at Vienna, 23.
Philosophy and specialties, 303.
Phonograph, the Edison, 771.

Photographs, exhibition of, 220.
Photo-lithography, specimens of, 271.
Photometer, 55.
Physical measurements of students, 34.
Pilk's Memory and its Doctors, 31.
Pictographs, 5, 25.
Pilot Chart, 65.
Plants, effect of electric currents on, 210.
Poisoning, cheese, 199; lead, 211; potato, 211.
Poisons, organic, 325.
Political Science Quarterly, 116.
Politics, study of, 41.
Porter's Our Celestial Home, 225.
Postal-card printing, 33.
Potter's wheel, Corean, 144.
Prison congress, 25; discipline, 36.
Prjevalsky, N. M., death of, 250.
Proctor, R. A., 142; death of, 172.
Proctor's Great-Circle Sailing, 208; Old and New Astronomy, 143.
Psychical Research, Proceedings of the Society for, 30, 118.
Pyramids of Egypt, 2.
Q.
Quack advertising, 97.
Quarantine system, 69.
Quick's How to train the Memory, 189.
R.
Railroad, Bokhara, 195; Russian Pacific, 152; the Old, 271.
Rails, oxidation of, 309.
Railway, longest tangent on, 33; speeds, English, 52.
Railways in Asia Minor, 49.
Rainfall, Kansas, 10.
Rain-gauge, 34.
Reading, effect of practice upon, 112.
Rib, an eighth sternum, 184.
Richter's Die Gletscher der Ostalpen, 263.
Riley, C. V. Variation in organic forms, 123.
Rivers, cutting power of, 85; prevention of floods in, 85.
Rogers's Economic Interpretation of History, 296; Story of Holland, 295.
Rolleston's Forms of Animal Life, 7.
Rosenbusch's Microscopical Physiography of the Rock-Making Minerals, 248; Petrography, 279.
Rupert's Guide to the Study of the History and the Constitution of the United States, 181.
S.
Sailing, great-circle, 103.
Sand, musical, 181.
Sargent's Latin Prose Primer, 248.
Satellite, lunar, 131.
School attendance, 87; statistics, 97; work and eyesight, 207.
Schools in Hong Kong, 34; supplementary reading in, 138; the public, 50.
Scudder's Literature in School, 224.
Seasickness, 139; fatal, 151.
Sense impressions, 151; perceptions, 222.
Servis's Astronomy with an Opera-Glass, 274.
Sexton's The Ear and its Diseases, 248.
Shaw's National Revenues, 178.
Silk-culture, 8, 9.
Simon's Manual of Chemistry, 202.
Smiley, C. W. Altruism considered economically, 96.
Smyth, Piazzi, 108.
Snow-storm on an electric road, 201.
Soil classification, 150, 189, 192.
Solar parallax, 184; system, motions of, 89.
Sourness, 71.
Southwick's Theory and Practice of Teaching, 189.
Spain, prehistoric race of, 162.
Species and subspecies, 279; origin of, 239.
Spectrum, Rowland's map of, 35.
Speech and music in disease, 300.
Spiritualism, psychology of, 47.
Sprague motor, 210, 265.
Stanley and Emin Pacha, 310, 323; expedition, 128; news from, 217.
Starr's Hygiene of the Nursery, 236.
Statistics in America, 85.

Steel, Hadfield's manganese, 254.
Steele's Popular Chemistry, 107.
Steele and Jenks's Popular Zoölogy, 8.
Stevenson, James, 63; death of, 57.
Stimulants, effect of, upon the reaction time, 113.
Stone, O. Motions of the solar system, 99.
Strachey's Lectures on Geography, 188.
Sulphur, vapor of, 34.
Sun, temperature of, 1; utilisation of energy of, 247.
Sunset phenomena, 191.
Surveys, their kinds and purposes, 234.
T.
Take heed, 204.
Tales from Venezuela, 307.
Tattooing, 140.
Taylor's Is Protection a Benefit? 176.
Telephone, a novel, 239; fatigue from use of the, 259.
Telescope for the new astronomy, 252.
Temperance instruction, 139.
Texas school of geology, 179.
Textile patterns of ancient Peru, 246.
Thermometric scale, 58.
Thompson's History of Protective Tariff Laws, 115.
Thornton's Elementary Physiography, 69.
Thought-transference, 46.
Thunder-storms periodicity, 180.
Thunder-storms, 167; in England, 271.
Tobacco, use of, 233; smoke as a disinfectant, 259.
Tonics and bitters, 199.
Tooth, inherited deficiency of, 151.
Tornadoes, study of, 9.
Tree-growth, influence of light upon, 161; on arid lands, 170.
Trees, annual ring in, 138; configuration of, 306.
Trench's On the Study of Words, 164.
Troops in India, 33.
Trumbull's Names and Portraits of Birds which interest Gunnars, 236.
Tuckerman Memorial Library, 226.
Tyndall's Researches on Diamagnetism and Magnetic Action, 235.
Typhoid bacillus, 199; fever, 67, 147.
U.
University statistics, 394.
V.
Vaccination, 165; value of, 173.
Vaughan and Novy's Ptomaines and Leucomaines, 311.
Verney's How the Peasant Owner Lives, 164.
Viru, vaccine, vs. bovine, 111.
Vocabularies, number of words in, 23.
Volapükists, the leader of, 237.
W.
Walsh's Paradoxes of a Philistine, 273.
Washington societies, 4.
Water-supplies, pollution of, 205.
Watson's Philosophy of Kant, 51.
Weather in Egypt, 137; predictions, 203.
Welch and Duffield's Latin Accidence, 81.
Welch's Talks on Psychology applied to Teaching, 214.
Westinghouse Company's extension, 247.
Whooping-cough, 151.
Wine, plastering of, 89, 335.
Wool's Descriptive Geometry, 95.
Wounds, healing of, 211; of the abdomen, 110.
Wrecks on the ocean, 197.
Wright's Children's Stories of the Great Scientists, 224.
Wright's Sound, Light, and Heat, 114.
Writer's Handbook, the, 274.
X.
Xenophon's Anabasis, 246.
Kingu, exploration of the, 117.
Y.
Yellow-fever, 147, 197; camp, 215; germ, 147; in Jacksonville, 121; treatment, 186.
Z.
Zodiacal light, 180.
Zoological Park, National, 55.

LIST OF ILLUSTRATIONS.

PAGE		PAGE
208	Musical boxes (6 figs.)	286, 287, 288
126	Nicaragua Ship-Canal, plan and profile of	158, 159
302, 303	Nicaragua Canal, profile of	323
149	Panama Canal, profile of	323
221	Russian Pacific Railroad, sketch-map of the	188
289	Saratshan, lower course of the	199
290	Sprague Electric Railway at Boston	325
294	Sprague truck for street-cars	266
307	Synclinal mountains and anti-clinal valleys	320
190	Thomson-Houston motors	283
295	Tuttle, Albert H. (portrait)	125
317	United States, projections for the	62
156	University of Virginia, plan of biological laboratory at	125
301	Zodiacal light	180
127	Africa, map of, showing spread of Mohammedanism	opposite
73	United States, projections for the	opposite
314, 315		81
167		
119		
296		

d
-
-
-
-
ig,
sta,
in

AGE
288
150
325
325
188
199
325
206
320
263
125
62
125
180

225
61